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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,508

09/20/2006

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52201-0653

1400

28481 7590 08/14/2009  
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EXAMINER

DEGHAN, QUEENIE S

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

08/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,508	<b>Applicant(s)</b> HOFMANN ET AL.	
	<b>Examiner</b> QUEENIE DEGHAN	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/20/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 6-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. (6,460,378) in view of Yoshida et al. (4,812,154). Dong teaches a method for producing an optical component comprising feeding a coaxial arrangement comprising an outer jacket tube, inner jacket tube, and a core rod with its lower end sitting on an abutment in the internal bore of the inner jacket tube in vertical orientation to a heating zone, softening the coaxial arrangement to obtain an optical

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component (figure 3, col. 5 lines 39-45, col. 6 lines 17-21, col. 6 lines 60-67, col. 7 lines 15-25). Although Dong utilizes a means for supporting the core rod within the internal bore of the inner jacket tube, Dong does not disclose other known means for support. Yoshida discloses inserting a core rod into a first jacket tube, wherein the lower face end of the core rod sits on an abutment within the internal bore of the first jacket tube. Yoshida further teaches the abutment is configured as a constriction of the internal bore of the jacket tube with an axially continuous opening. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a constriction with an axially continuous opening as a known alternative means for supporting the core rod in the process of Dong since it has been demonstrated to yield the predictable result of holding the core rod within the inner jacket tube in a vertical fashion.

4. Regarding claim 6, Dong further teaches a mechanical stop (62) which prevents an upward movement of the core rod in a direction opposite a pulling direction (figure 3b).

5. Regarding claim 7, Dong teaches an annular gap between the core rod and inner jacket tube of 0.5mm (col. 5 lines 65 to col. 6 line 1).

6. Regarding claims 8 and 20, Dong teaches an annular gap between the inner jacket tube and the outer jacket tube of 0.5 mm (col. 6 lines 26-29).

7. Regarding claim 9, Dong teaches the inner jacket tube is movably held in a lateral direction (figure 3a, col. 6 lines 31-43).

8. Regarding claim 18, Dong teaches the outer jacket tube is provided with a downwardly tapering lower end (fig. 3a & 3b, col. 6 lines 22-25).

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9. Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. and Yoshida, as applied to claim 1 above, in further view of Fabian (2003/0140659). Regarding claim 3, Dong does not specially disclose the composition of the core rod. Fabian teaches a core preform comprising a core region surrounded by a cladding glass layer, wherein the ratio of the outer diameter of the cladding glass layer to the outer diameter of the core region is 2.39 ([0003]-[0008]). Having such a cladding layer of such dimensions reduces OH contamination from subsequent cladding layers and hence improve on the transmission of the resulting optical fiber. It also allows for a less expensive means for providing additional cladding to the preform for mechanical strength without influencing the optical properties of the fiber as much. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a similar core rod in the process of Dong and Yoshida as that of Fabian in order to reduce the cost of manufacturing while still producing an optical fiber with low transmission losses.

10. Regarding claim 15, Dong does not disclose a hydroxyl content of the inner jacket tube. Fabian teaches an inner jacket tube with a mean hydroxyl group content of less than 1 wt ppm ([0011]-[0013]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have similarly utilized an inner jacket tube with a hydroxyl group content of less than 1 wt ppm in the process of Dong to minimize the hydroxyl content in the core and ensure an optical fiber product with low attenuation losses.

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11. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. and Yoshida, as applied to claim 1 above, in further view of Dong et al. (EP 1 182 173). Dong and Yoshida do not disclose a core rod formed of butt-jointed core rod pieces. Dong '173 teaches forming a core rod by loosely stacking core rod pieces end to end or butt to butt for a rod-in-tube process (abstract, [0009], figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to have similar form the core rod in the process of Dong and Yoshida by butt-ending core rod pieces in order to manufacture a preform that is larger/longer and producing higher yields for optical fiber drawn therefrom.

12. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. and Yoshida, as applied to claim 1 above, in further view of Shimada et al. (EP 0994077). Dong and Yoshida do not disclose a holding cylinder for the outer jacket tube. Shimada teaches a holding cylinder of quartz glass fused onto the upper end of a jacket tube with a circumferential groove in which a gripper engages the holding cylinder ([0018]-[0019], figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a similar holding cylinder with a groove on the outer jacket tube of Dong in order to provide a means for handling the coaxially assembly why softening the assembly zonewise.

13. Further regarding claim 12, as just previously mentioned, Shimada teaches a first holding means that engages with the upper end of the inner jacket tube. Dong further teaches a second holding means that engages the upper end of the inner jacket tube (58) so that the inner jacket tube is held in place (figure 3a, col. 6 lines 31-43), Wherein

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the first holding means and second holding means are mechanically independent of each other.

14. Further regarding claim 13, Dong discloses holding the upper end of the inner jacket tube on the outer jacket tube (figure 3a, col. 6 lines 31-43). Regarding claim 14, seal ring (58) is interpreted a mechanical extension of the inner jacket tube with a outer collar that rest on outer jacket tube (figure 3a).

15. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. and Yoshida, as applied to claim 1 above, in further view of Fabian et al. (2005/0117863). Dong does not offer specific details on the manufacturing of the jacket tubes. Fabian teaches a jacket tube produced by elongating a hollow cylinder which has been mechanically treated to a final dimension ([0015]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized inner and outer jacket tubes in the process of Dong that has been mechanically treated to a final dimension in order to ensure the accurate alignment and fit of the core rod, resulting in a concentric arrangement of the core in the resulting fiber.

16. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. and Yoshida, as applied to claim 1 above, in further view of Glodis et al. (6,105,396). Dong teaches core rod can be made via conventional processes such as MCVD, but fails to disclose the composition of the core rod. Glodis discloses a rod-in-tube process comprising of manufacturing a core rod via MCVD process, wherein the core rod comprises a core region surrounded by a cladding glass layer with a ratio of the outer diameter of the cladding glass layer to the outer diameter of the core region is

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approximately 3 (col. 2 lines 60 to col. 3 line 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a core with outer diameter ratio of about 3, as suggested by Glodis in the process of Dong in order to provide a cladding layer on the core region with sufficient thickness so as to prevent the migration of OH groups into the core.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUEENIE DEGHAN whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/Queenie Dehghan/  
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